

Debut Of New Tactical Aerostat System

Carolina Unmanned Vehicles, Inc. (CUV) announces the debut of a new version of the **Small Tactical Multi-Payload Aerostat System (STMPAS)**. The new STMPAS-II will be at the North Carolina Federal Advanced Technologies Review (NCFATR) at the McKimmon Conference & Training Center in Raleigh on June 3, 2015.

STMPAS-I was developed for the Army Rapid Equipping Force (REF), for deployment to Afghanistan. It provided Intelligence, Surveillance, and Reconnaissance (ISR) capability for small tactical units in Afghanistan. REF procured eight STMPAS-I for operational deployment to Afghanistan.

STMPAS-II, developed with CUV internal funding, can carry ISR and communications payloads attached under a small specially designed tethered blimp, called a Helikite, and a trailer Carrier that stores the Helikite and the required winch, sensors and helium tanks. The STMPAS blimp can fly at altitudes of 500 to 10,000 feet for low cost, long term coverage for 24 hours a day for a week or more without maintenance or downtime. It operates for weeks at a time at a fraction of the cost of comparable aircraft or Unmanned Air Vehicles.

Traditional aerostats cannot operate in high winds unless fairly large, typically with 200 Lb of lift or more. This large size makes them unsuitable for deployment to small isolated bases. STMPAS uses the patented Allsopp Helikite lifting aerostat. Helikites have lifting surfaces that generate aerodynamic lift to support the blimp in winds which would drive traditional designs into the ground. With the Helikite, STMPAS can be smaller and more mobile than traditional aerostat systems yet still operate in high winds. With superior mobility, mission utility and adverse weather capability, all STMPAS equipment can fit into a single military trailer (Fig. 1). STMPAS is designed to support mobile or expeditionary operations, but may be employed in static missions such as a force protection measure at a small Forward Operating Base (FOB) that cannot logistically support a larger aerostat system. It is ideal for mobile border security and post-disaster communications support.

STMPAS-II improvements include launch directly from a box on the trailer top rather than from the ground. This improves the launch timeline, reduces problems with muddy / rocky ground, and allows movement of the system with the Helikite inflated atop the trailer. The Helirest air inflated unit has been moved to the trailer top where it restrains and protects to the Helikite during inflation / deflation and ground storage. The Helirest also provides a safe working area for the two person crew, protecting them from falling. Winch models are available that can accommodate up to 10,000 feet of tether, and can be equipped with electrical slip rings and fiber optic rotary joints for power / data tethers. Several models of on-board generators are available. STMPAS-II retains the small crew size, high mobility, air transportability and logistics supportability of STMPAS-I. The Department of Commerce has approved the basic STMPAS equipment for export.

STMPAS is suitable for surveillance, communications relay and research for DOD and Homeland Security missions. CUV is a small Woman-Owned company focused on small aerostats and Unmanned Aerial Vehicles. In addition to the REF CUV has previously provided aerostat systems for the USAF, Sandia National Laboratory, and Lockheed Martin. Contact: Mike Rogers, (919) 851-9898, merogers@carolinaunmanned.com

Fig 1

Small Tactical Multi-Payload Aerostat System (STMPAS-II)



- Trailer Carrier With All Equipment, HMMWV / MRAP Compatible
- Helikite Lifting Aerostat
- Helirest Protective Mount
- 2 Person Crew, Common Logistics
- C-130 / CH-47 Transportable
- Gyro – Stabilized Camera Payloads
- Networked Communication Payloads
- SIGINT / ELINT Payloads
- Acoustic Gunfire Detection